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high quality voice reconstruction at low to very low bit rates on the basis of a voicing probability determination. (Yeldener Col. 3 lines 59-62.) In Yeldener, it is explained that transitions that fall within a single frame cannot be represented accurately (col. 19 lines 65-67). It is explained in Yeldener that:

“...one approach to satisfying this tradeoff is the use of frame-to-frame LPC interpolation. Generally, the idea is to achieve an improved spectrum representation by evaluating intermediate sets of parameters between frames, so that transitions are introduced more smoothly at the frame edges without the need to increase the coding capacity.” (col. 20 lines 18-23)

Yeldener makes use of information in neighboring frames in addition to that contained in a current frame to improve spectrum representation. In Yeldner, all frames must be present in order for the interpolation techniques to be effective. There is no suggestion in Yeldener that any of the frames are unascertainable – e.g. missing, corrupted, etc., and in fact Yeldener does not address the issues associated with unascertainable segments or frames.

#### Wang

Wang describes an improved loss recovery method for coding streaming media, that classifies each data unit in the media stream as an independent data unit, a remotely predicted unit or a predicted data unit. Each is organized into independent segments having an I unit, multiple P units and R unites interspersed among the P units.

“To establish a *prima facie* case of obviousness, three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success.

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Finally, the prior art reference (or references when combined) must teach or suggest all of the claim limitations.” (M.P.E.P. §2143: Basic Requirements of Patentability)

There is no basis to combine Yeldener and Wang

It is well established that, in order to support a rejection under 35 U.S.C. §103, sufficient motivation for combining the references to reach the combined motivation must be shown by the Examiner. The mere fact that references can be combined or modified does not render the resultant combination obvious unless the prior art also suggests the desirability of the combination. *In re Mills*, 916 F.2d 680, 16 USPQ2d 1430 (Fed. Cir. 1990). In determining the propriety of the Patent Office case for obviousness in the first instance, it is necessary to ascertain whether or not the reference teachings would appear to be sufficient for one of ordinary skill in the relevant art having the reference before him to make the proposed substitution, combination, or other modification. *In re Linter*, 458 F.2d 1013, 1016, 173 USPQ 560, 568 (CCPA 1972).

Yeldner is directed to the art area of encoding and decoding speech signals. Wang is directed to a mechanism for data compression (voice or video). For at least the reason that the two art areas are fundamentally different, Applicants submit that there is no motivation for the modification suggested by the Examiner, and that therefore the rejection is overcome and should be withdrawn.

Combination neither describes nor suggests claimed invention

Claim 1 recites “...A method of generating a new audio segment for an audio signal, the audio signal having a plurality of audio segments, the method comprising ... *determining that a*

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*given audio segment is not ascertainable*, the location of the given audio segment within the audio signal being ascertainable ... *locating a set of consecutive audio segments* in the audio signal, the set of consecutive audio segments *preceding the given audio segment* and having a formant... removing the formant from the set of audio segments to produce a set of residue segments having a pitch ... processing the pitch and the set of residue segments to produce a new set of residue segments; and ... *adding the formant of the consecutive set of audio segments to the new set of residue segments to produce an output audio segment...*"

As the office Action points out, Yeldener fails to teach or suggest a method for producing a new audio segment including a step of determining that a given audio segment is unascertainable. The Office Action suggests however that Wang teaches "...tracking lost data and recovering such lost data by estimating between the non-lost segments..." Applicants respectfully disagree that Wang teaches such a function. In actuality, Wang teaches a method of compressing data, wherein only certain segments of the stream are fully encoded, while other segments are predicted based on neighboring data units in the spatial domain. "Rather than encoding the data unit, the encoder uses the neighboring data unit to predict the signal represented in the current data unit and then only encodes the differences between the current data unit and the prediction of it..." Thus Wang proposes the use of Loss Recovery Points R, which depend upon fewer frames than predicted units, and then can be more efficiently coded. (Wang, col. 1, line 63-col. 2 line 2, col. 3, line 22-27).

Wang specifically states, at col. 6, lines 65- col. 7 line 6:

"... Each of the R type units provides a loss recovery point that is dependent on some other data unit, either R or I, which is transmitted with higher priority. Thus, if some P type

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units or even some R type units are lost, the decoder on the receiver only needs to select the next highest R or I type unit to recover from the loss..."

Accordingly, Wang does not teach "*recovering such lost data by estimating between the non-lost segments*" as suggested by the Examiner, but rather falls back to some previously encoded reliable segment.

In addition, although the examiner states that Yeldner teaches the other language of the claims, Applicants assert that the steps of the claim serve to modify the 'given audio segment' which, as noted above, is the 'unascertainable' segment. Patentable weight must be given to these steps, and because Yeldner neither describes nor suggests the step of 'determining that a given audio segment is not ascertainable', it is unclear to the Applicants how Yeldner can teach the remaining steps of the claims, which operate on the 'unascertainable' segment. In addition, Applicants note that specific functions and interrelations between claim elements are recited in the claim to rebuild the unascertainable segment which are not disclosed or suggested by Yeldner. For Example, Yeldner neither describes nor suggests "*...locating a set of consecutive audio segments in the audio signal, the set of consecutive audio segments preceding the given audio segment and having a formant... removing the formant from the set of audio segments to produce a set of residue segments having a pitch ... processing the pitch and the set of residue segments to produce a new set of residue segments; and ... adding the formant of the consecutive set of audio segments to the new set of residue segments to produce an output audio segment..*"

Accordingly, because the combination of Wang and Yeldner neither describe nor suggest the elements of claim 1, the rejection has been overcome and should be withdrawn. Independent claims 11 and 21 include limitations similar to those put forth with regard to claim 1 and are allowable for at least the reasons put forth with regard to claim 1. Dependent claims 2-10, 12-20

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and 22-31 serve to add further patentable limitations to their parent claims, and are allowable for at least the reasons put forth with regard to the parent claims.

### Conclusion

Applicants have made a diligent effort to place the claims in condition for allowance. However, should there remain unresolved issues that require adverse action, it is respectfully requested that the Examiner telephone Lindsay G. McGuinness, Applicants' Attorney at 978-264-6664 so that such issues may be resolved as expeditiously as possible. For these reasons, and in view of the above amendments, this application is now considered to be in condition for allowance and such action is earnestly solicited.

Respectfully Submitted,

10/30/2003  
Date

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Docket No. BA0452  
Dd: 10/30/2003